



Sir John Falstaff, Higham
Biodiversity Metric Calculation

28th September 2023

INTRODUCTION

Kingdom Ecology Ltd have completed a Biodiversity Net Gain (BNG) metric calculation of a proposed development located at the Sir John Falstaff, Gravesend Road, Higham, Rochester, ME3 7DZ.

Development proposals are to construct a detached dwelling with associated areas of garden. The development would be constructed on an existing area of beer garden and hardstanding car park within the pub carpark extended into an area of former overgrown beer garden.

A desk-based assessment of the affected habitats was carried out by Richard Roe (BSc, MSc, MIEEM, CEnv) of Kingdom Ecology. Richard has extensive experience of undertaking habitat assessments as a professional ecological consultant with over twenty years' experience.

The assessment was carried out using aerial imagery of the site and using site photographs of affected habitats. A site visit was not undertaken however given the habitats present, a desk-based assessment was considered to be suitable to accurately describe habitats.

BIODIVERSITY METRIC CALCULATION METHODS

Based upon the development proposals, the relative biodiversity units at the site before and after the proposed development have been calculated following methodologies and using tools provided within the Natural England Biodiversity Metric Calculator Version 4.0. (Natural England May 2023).

Metrics use combinations of measurements to provide an assessment of the biodiversity value of a particular site. The metric allows the biodiversity impact of a development to be quantified so that the offset requirement, and the value of any compensatory action, can be clearly defined.

Metrics are transferable between sites and habitats, allowing an impact on one habitat type to be offset with conservation action elsewhere, or involving a different habitat type and/or quality of habitat.



The Natural England Small Sites Biodiversity Metric produces an assessment of the number of biodiversity units present at a site. The greater the number of units, the more valuable a site. The Tool uses the following measurements to produce an overall calculation of 'biodiversity units' present at a site:-

- Type and conservation value of habitats present
- The size of each habitat parcel
- Whether the site is in a location identified as a local nature priority

As the calculation takes account of all of the various factors above, this means that a small site comprising of habitats of high conservation value and distinctiveness can be calculated to have higher value in terms of biodiversity units than a larger area of low value habitat.

BIODIVERSITY METRIC CALCULATION

Existing Habitats

Site Description and Habitats

The study site comprises of an approximately 0.17ha area of land located at the Sir John Falstaff Public House. The main pub and the majority of the site will be retained and unaffected by development proposals. The proposed development will be located at the eastern end of the site. The development will comprise of the construction of a new dwelling and the extension of the existing pub car park into an area of disused land.

Affected habitats comprise of areas of pub carpark, bramble scrub, conifer trees, an area of wooden decking and a small area of beer garden.

Habitats at the study area are shown on Figure 1 in the Appendix. Photographs of habitats at the site are also provided in the Appendix.

Habitats are numbered on Figure 1 and described with regards to their UKHab classification and BNG condition in Table 1 below.

Table 1- Habitat Descriptions

Reference	Description	UK Hab Description
1	Hardstanding carpark	Built/sealed surface Condition- n/a
2	Tarmacked area at front of pub	Built/sealed surface Condition- n/a
3	Pub building (Unaffected)	Built/sealed surface Condition- n/a



Reference	Description	UK Hab Description
4	Area of garden decking in beer garden.	Built/sealed surface Condition- n/a
5	Line of cypress trees on edge of beer garden. Trees meet 4 condition criteria (B, C , D and F)	Urban Trees Condition- moderate
6	Area of beer garden, will be largely unaffected by development proposals. Comprises of managed, mown lawn with scattered pub benches and adjacent ornamental shrubbery	Vegetated garden Condition- n/a
7	Band of ornamental shrubbery along edge of beer garden. Unaffected by proposals	Introduced shrub Condition- n/a
8	Area of patio to rear of pub. Unaffected by proposals	Built/sealed surface Condition- n/a
9	Band of cypress trees with some holly located on northern boundary of beer garden. Will be unaffected by proposals. Trees meet 4 condition criteria (B, C , D and F)	Urban Trees Condition- moderate
10	Band of bramble scrub within disused part of pub beer garden. Will be lost to development.	Bramble scrub Condition- n/a

Proposed Habitats

Proposals are to construct a detached dwelling at the site with associated landscaping and parking. The new dwelling will be constructed on an area of existing pub car park.

The remaining car park will be extended into an area of land which is currently overgrown with bramble and will partially extend into the exiting beer garden, requiring the removal of existing wooden decking and a row of cypress trees.

The vegetated gardens around the dwelling will include additional areas of ornamental hedge. In addition, nine new trees will be planted around the site with eight of the trees located within land associated with the retained pub and one tree located within the rear garden of the dwelling.

The proposed habitats are shown on Figure 2 along with the proposed development plan in the Appendix.

In order to maximise the biodiversity value of the proposed development, it is recommended that the proposed new trees comprise of native species which can provide nectar sources for insects and berries/fruits for invertebrates and birds.



The following small/medium sized tree species are recommended as they offer suitable foraging opportunities to various native wildlife (including birds and invertebrates): rowan, wild cherry, crab apple, silver birch, holly, and willow.

Areas of any new shrubbery/hedging should include suitable nectar sources for insects. The Royal Horticultural Society provides a list of suitable plants for invertebrates (see rhs.org.uk/plantsforpollinators).

It is recommended that this list is consulted when producing detailed landscaping designs for the site.

In addition, it is recommended that the overall site be enhanced for bats and breeding birds. This can be achieved through the installation of 2 x bat box (recommended model Habibat 003) and 4 x sparrow nest boxes (recommended model Schwegler 1SP or similar) into the proposed new dwelling.

It is recommended that bat and bird boxes are built into the east and west facing gables of the proposed dwelling (1 x bat box at each gable apex with 2 x bird boxes positioned either side of the bat box).

The bat and bird boxes should be built into the brick walls of the proposed building so as to remain visually unobtrusive. The boxes should be located at a minimum height of 4m with bat box located as close to the gable apex as possible.

Biodiversity Metric Calculation Results

Based upon the proposals, the relative biodiversity units at the site before and after the completion of development proposals have been calculated following methodologies and using tools provided within the Natural England Biodiversity Metric Calculator Version 4.0. (Natural England May 2023).

The baseline biodiversity units (i.e. the site's current condition) are calculated at 0.60 biodiversity units and zero hedgerow units.

The biodiversity units after the completion of development are calculated at 0.67 biodiversity units and 0.01 hedgerow units.

Therefore, the development would result in a biodiversity net gain of 0.07 biodiversity units or an 11.59% increase in biodiversity units.

A copy of the Headline Biodiversity Metric Calculations are provided in the Appendix with the full calculations provided within the associated Metric Toolkit Spreadsheet.



APPENDIX

Biodiversity Metric Calculation Headline Results

On-site baseline	Habitat units	0.60
	Hedgerow units	0.00
	Watercourse units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.67
	Hedgerow units	0.01
	Watercourse units	0.00
On-site net change (units & percentage)	Habitat units	0.07
	Hedgerow units	0.01
	Watercourse units	0.00
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Off-site net change (units & percentage)	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.07
	Hedgerow units	0.01
	Watercourse units	0.00
Spatial risk multiplier (SRM) deductions	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.07
	Hedgerow units	0.01
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	11.59%
	Hedgerow units	N/A
	Watercourse units	0.00%

Photograph 1 – Habitats and site looking towards the rear of pub



Photograph 2 – Habitats in pub carpark (proposed new house location)



Photograph 3 – Conifers on eastern boundary of pub car park (Target Note 5)



Photograph 4 – Conifers at northern boundary of beer garden (Target Note 9)



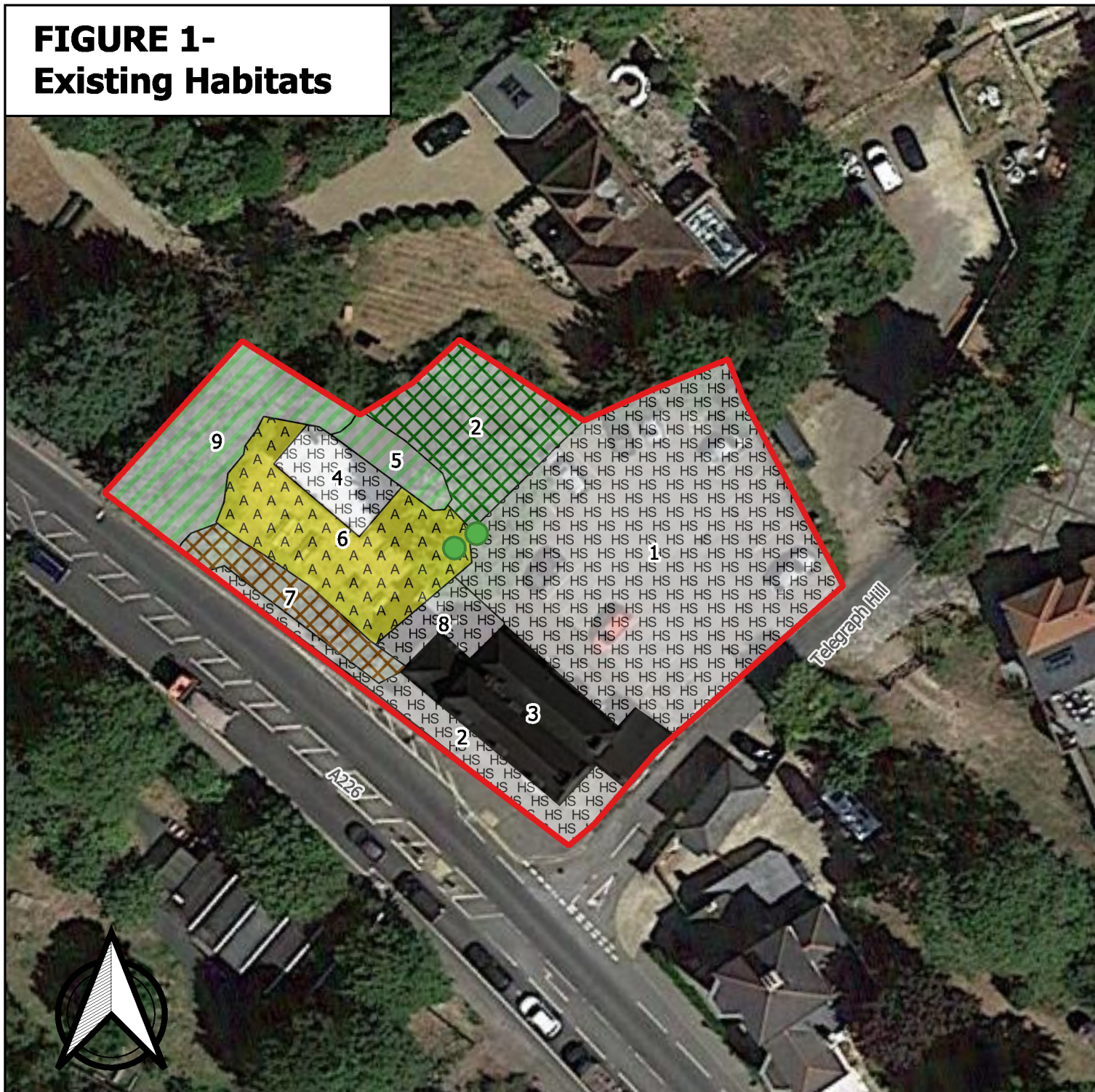
Photograph 5 – Rear garden of pub



Photograph 6 – Bramble habitats at Target Note 2



**FIGURE 1-
Existing Habitats**



KEY



Study Site



Tree



Conifer plantation



Continuous scrub



Amenity grassland



Introduced shrub

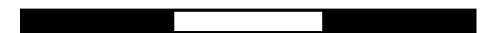


Buildings



Hardstanding

0 10 20 30 m



Map data ©2023 Google

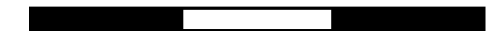
**FIGURE 2-
Proposed Habitats**



KEY

-  Study Site
-  Retained Tree
-  Proposed Tree
-  Proposed hedge
-  Built sealed Surface
-  Amenity lawn/vegetated garden
-  Ornamental Shrubbery
-  Building
-  Retained trees

0 10 20 30 m



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